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## **CLAIMS**

A method for regenerating a catalytic fuel processor, while it is being used to supply hydrogen to a fuel cell, comprising any one or more of the steps of:

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- continuing to pass fuel, air and steam through a reforming catalyst whilst the catalyst is heated by an external heat source such that the temperature of the catalyst may be adjusted,
- continuing to pass fuel, air and steam through a reforming catalyst and modulating the air and/or steam feed rate.
- continuing to pass, air, fuel and steam through a reforming catalyst and modulating the feed-rate of the fuel.
- continuing to pass fuel, air and steam through a reforming catalyst wherein an oxygenate is added to the feed.

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and maintaining the hydrogen concentration in dry reformate above 25% throughout the operation of the processor.

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A method for preventing or retarding the de-activation of a catalytic fuel processor while it is being used to supply hydrogen to a fuel cell comprising any one or more of the steps of:

continuing to pass fuel, air and steam through a reforming catalyst whilst the catalyst is heated by an external heat source such that the temperature of the catalyst may be adjusted,

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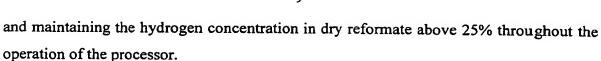
continuing to pass fuel, air and steam through a reforming catalyst and modulating the air and/or steam feed rate,

continuing to pass air, fuel and steam through a reforming catalyst and modulating the feed-rate of the fuel.

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continuing to pass fuel, air and steam through a reforming catalyst wherein an oxygenate is added to the feed.





- 3. A method according to either claim 1 or claim 2, whereby water is temporarily added to the fuel.
  - 4. A method according to claims 1 or 2 in which air is temporarily added to the feed.
- 10 5. A method according to claims 1 or 2 in which an oxygenate is added to the feed.
  - 6. A method according to claim 5 in which the oxygenate is MTBE (methyl-tert-butylether).
- 7. A method according to claims 1 or 2 in which the catalyst bed temperature is raised temporarily by an external heat source.
  - 8. A method according to claims 1 or 2 in which the temperature of one or more of the reactant feeds is raised temporarily.

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